

BIOCHEMICAL AND BIOPHYSICAL Research Communications

EDITORS

Ernesto Carafoli
Pedro Cuatrecasas
I. C. Gunsalus
Osamu Hayaishi

B. L. Horecker
William J. Lennarz
M. Daniel Lane
William D. McElroy

Frederick C. Neidhardt
Claude Paoletti
William D. Phillips
Alberto Sols

Volume 144 • 1987



ACADEMIC PRESS, INC.

Harcourt Brace Jovanovich, Publishers

San Diego Orlando New York Austin Boston
London Sydney Tokyo Toronto

Copyright © 1987 by Academic Press, Inc.

ALL RIGHTS RESERVED

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (27 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1987 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0006-291X/87 \$1.50

MADE IN THE UNITED STATES OF AMERICA

BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

CONTENTS

Volume 144, Number 1, April 14, 1987

AUTHOR INDEX, Volume 144, Number 1, April 14, 1987	ii
pBR322 Contains Glucocorticoid Regulatory Element DNA Consensus Sequences <i>Douglas B. Tully and John A. Cidlowski</i>	1
Inhibition of Tyrosine Autophosphorylation of the Solubilized Insulin Receptor by an Insulin-Stimulating Peptide Derived from Bovine Serum Albumin <i>Akemichi Ueno, Naokatu Arakaki, Yoshiro Takeda, and Hajime Fujio</i>	11
Insulin Stimulates the Phosphorylation Level of v-Ha-ras Protein in Membrane Fraction <i>Tohru Kamata, Satish Kathuria, and Yoko Fujita-Yamaguchi</i>	19
Two-Dimensional NMR Studies on the Solution Structure of d-CTCGAGCTCGAG <i>Anu Sheth, M. Ravikumar, R. V. Hosur, Girjesh Govil, Tan-Zu-Kun, and H. T. Miles</i>	26
K252a, a New Inhibitor of Protein Kinase C, Concomitantly Inhibits 40K Protein Phosphorylation and Serotonin Secretion in Phorbol Ester-Stimulated Platelets <i>Koji Yamada, Kazuyuki Iwahashi, and Hiroshi Kase</i>	35
Globoid Cell Leukodystrophy Is a Generalized Galactosylsphingosine (Psychosine) Storage Disease <i>Takuro Kobayashi, Hisaharu Shinoda, Ikuo Goto, Tatsuihiro Yamanaka, and Yoshiyuki Suzuki</i>	41
Reduced Thiol Content in L1210 Cells Treated with BSO Increases DNA Crosslinking by Melphalan <i>Robert T. Dorr</i>	47
Cerebral Metabolism in Brain Tumor of Mice Studied by <i>in Vivo</i> ³¹ P-NMR Spectroscopy <i>Kenzo Kato, Akira Ohsaka, Kazuhiro Matsushita, and Kenichi Yoshikawa</i>	53
Molecular Cloning and Amino Acid Sequence of Rat Enkephalinase <i>Bernard Malfroy, Peter R. Schofield, Wun-Jing Kuang, Peter H. Seeburg, Anthony J. Mason, and William J. Henzel</i>	59
Time-Dependent Effects of Follicle-Stimulating Hormone on Progesterone Metabolism by Cultured Rat Granulosa Cells <i>Young S. Moon, Antoni J. Duleba, and Basil Ho Yuen</i>	67
Partial Primary Structures of Human and Murine Macrophage Colony-Stimulating Factor (CSF-1) <i>Albert Boosman, James E. Strickler, Kenneth J. Wilson, and E. Richard Stanley</i>	74
Neuron Localization and Neuroblastoma Cell Expression of Brain-Derived Growth Factor <i>Shuan Shian Huang, Cheng C. Tsai, Steven P. Adams, and Jung San Huang</i>	81
Studies on Species Cross-Reactivity of Hemopexin by Use of Monoclonal and Polyclonal Antibodies <i>Sylvia A. Metcalfe, Maria G. De Falco, Keith J. Griffin, Heng H. Liem, and Ursula Muller-Eberhard</i>	88
Stimulation of Fatty Acid Uptake and Triglyceride Synthesis in Human Cultured Skin Fibroblasts and Adipocytes by a Serum Protein <i>K. Cianflone, P. O. Kwiterovich, M. Walsh, A. Forse, M. A. Rodriguez, and A. D. Sniderman</i>	94
Inhibition of Human Neutrophil Collagenase by Gold(I) Salts Used in Chrysotherapy <i>Satish K. Mallya and Harold E. Van Wart</i>	101
The Effect of Metyrapone on Cytokinin ([8- ¹⁴ C]Benzylaminopurine) Metabolism in Mature Green Tomato Pericarp <i>A. R. Long and Grady W. Chism III</i>	109
Effect of Heparin-Binding Growth Factors on Monovalent Cation Transport in Balb/C 3T3 Cells <i>José A. Halperin and Roy R. Lobb</i>	115
A Phospholipase A ₂ Isoenzyme Provokes Lipoxin B Formation from Endogenous Sources of Arachidonic Acid in Porcine Leukocytes <i>Bing K. Lam, Charles N. Serhan, Bengt Samuelsson, and Patrick Y-K. Wong</i>	123
Human Myeloma Cells Acquire Resistance to Difluoromethylornithine without Overproducing Ornithine Decarboxylase <i>L. Alhonen-Hongisto, P. Leinonen, R. Laine, and J. Jänne</i>	132
Galactosialidosis: A Direct Evidence That a 46-Kilodalton Protein Restores Deficient Enzyme Activities in Fibroblasts <i>Eiji Nanba, Akihiko Tsuji, Kiyoshi Omura, and Yoshiyuki Suzuki</i>	138
Extracellular Endoglucanase Activity by a Novel Bacterium Isolated from Marine Shipworm <i>Harold L. Griffin, Shelby N. Freer, and Richard V. Greene</i>	143

Inhibition by 1-(5-Isoquinolinesulfonyl)-2-methylpiperazine, an Inhibitor of Protein Kinase C, of Enzyme Induction by Glucocorticoid, and of Nuclear Translocation of Glucocorticoid-Receptor Complexes	<i>Hiroshi Kido, Naomi Fukusen, and Nobuhiko Katunuma</i>	152
Tyrosine Phosphorylation of Interleukin 2 Receptor-Related Proteins in Phytohemagglutinin-Activated Human Lymphocytes	<i>Ryoichi Ogawa, Kazuo Sugamura, and Yasushi Watanabe</i>	160
The Inhibition of 3 β HSD Activity in Cultured Granulosa Cells by 4-MA, a Potent 5 α -Reductase Inhibitor	<i>Woon-Khiong Chan, Chui-Yee Fong, Hui-Huang Tiong, and Cheong-Huat Tan</i>	166
Effects of Maitotoxin on Ionic and Secretory Events in Rat Pancreatic Islets	<i>P. Lebrun, M. Hermann, T. Yasumoto, and A. Herchuelz</i>	172
Antibody against Nuclear Thyroid Hormone Receptors	<i>Kazuo Ichikawa and Leslie J. DeGroot</i>	178
Analysis of Human Terminal Deoxynucleotidyltransferase cDNA Expressible in Mammalian Cells	<i>Osamu Koiwai, Tsuguhiro Kaneda, and Rika Morishita</i>	185
Antibody That Recognizes Conformations of Calmodulin in the Serum from Patients with Chronic Active Hepatitis	<i>Yusei Ikeda, Gotaro Toda, Naoaki Hashimoto, Toshiyuki Maruyama, and Hiroshi Oka</i>	191
Photosynthetic Action Spectra of the Energy Storage in Bundle Sheath Cells of <i>Zea mays</i>	<i>R. Popovic, M. Beauregard, and R. M. Leblanc</i>	198
Membranous Phosphoglyceride-Linked Biosynthesis of Pentadeca Peptide, Linear Gramicidin, by <i>Bacillus brevis</i> ATCC 8185	<i>Kou Kubota</i>	203
Apolipoprotein B Is a Globular Protein: Morphological Studies by Electron Microscopy	<i>Diana M. Lee, David L. Stiers, and Tina Mok</i>	210
<i>Clostridium perfringens</i> Type A Enterotoxin Induces Release of Noradrenaline from the Neurosecretory PC12 Cell Line	<i>Kunihiro Ozutsumi, Nakaba Sugimoto, and Morihiro Matsuda</i>	217
Spectral Properties of Cytochrome <i>c'</i> from <i>Rhodopseudomonas capsulata</i> B100 and Its CO Complex	<i>Tetsuhiko Yoshimura, Shinnichiro Suzuki, Hidekazu Iwasaki, and Susumu Takakuwa</i>	224
Substance P Induces Alterations on Cerebral Lipids Involved in Membrane Fluidity	<i>R. E. Catalán, A. M. Martínez, M. D. Aragonés, A. Robles, and B. G. Miguel</i>	232
Effect of a High Carbohydrate Diet on Cardiac α -1 and β Adrenoceptors	<i>Constantinos J. Limas and Catherine Limas</i>	238
Purification and Characterization of Two Types of Atrial Natriuretic Factor Receptors from Bovine Adrenal Cortex: Guanylate Cyclase-Linked and Cyclase-Free Receptors	<i>Ryoichi Takayanagi, Rudolf M. Snajdar, Teruaki Imada, Masaaki Tamura, Kailash N. Pandey, Kunio S. Misono, and Tadashi Inagami</i>	244
Isolation of the Alkane Inducible Cytochrome <i>P</i> -450 (<i>P</i> 450alk) Gene from the Yeast <i>Candida tropicalis</i>	<i>Dominique Sanglard, Chien Chen, and John C. Loper</i>	251
Isolation of a Cytochrome <i>P</i> -450e Gene Variant and Characterization of Its 5' Flanking Sequences	<i>P. N. Rangarajan, H. Ravishankar, and G. Padmanaban</i>	258
Identification of a Novel Inositol Bisphosphate Isomer Formed in Chemoattractant-Stimulated Human Polymorphonuclear Leukocytes	<i>Susan B. Dillon, John J. Murray, and Ralph Snyderman</i>	264
Carrier RNA Enhancement of Recovery of DNA from Dilute Solutions	<i>Margaret L. Gallagher, William F. Burke, Jr., and Karen Orzech</i>	271
New Chelator-Sensitive Proteases in Matrix of Yeast Mitochondria	<i>Toshimasa Yasuhara and Akira Ohashi</i>	277
Sex-Mediated Lipid Metabolism in Human Aortic Smooth Muscle Cells	<i>Syed M. Naseem and Felix P. Heald</i>	284
Inhibition of γ -Glutamyl Hydrolases in Human Cells by 2-Mercaptomethylglutaric Acid	<i>V. Michael Whitehead, Thomas I. Kalman, and Mary-Jane Vuchich</i>	292
Identification and Molecular Characterization of Galanin Receptor Sites in Rat Brain	<i>Alain L. Servin, Brigitte Amiranoff, Christiane Rouyer-Fessard, Kazuhiko Tatemoto, and Marc Laburthe</i>	298
<i>Campylobacter pyloridis</i> Degrades Mucin and Undermines Gastric Mucosal Integrity	<i>B. L. Slomiany, J. Bilski, J. Sarosiek, V. L. N. Murty, B. Dworkin, K. VanHorn, J. Zielenski, and A. Slomiany</i>	307

Stabilized Ubisemiquinone in Reconstituted Succinate Ubiquinone Reductase	<i>Y. Xu, J. C. Salerno, Y. H. Wei, and Tsao E. King</i>	315
N-Hydroxysuccinimide-Hippuran Ester: Application for Radiolabeling of Macromolecules	<i>Kuldeep K. Bhargava and L. Rao Chervu</i>	323
Histone-H1 Inhibits Translation by Reticulocyte Lysates with Relative mRNA Selectivity	<i>Nicola E. O'Leary, Ijaz R. Cheema, Keith Moore, William B. Mehard, and Maria G. Buse</i>	329
Activation of Protein Kinase C Down-Regulates IFN- γ Receptors	<i>Antonella Fassio, Franca Cofano, Giorgio Cavallo, and Santo Landolfo</i>	337
Endothelial Cell Proliferation May Be Mediated via the Production of Endogenous Lipoxygenase Metabolites	<i>B. N. Yamaja Setty, Ronald L. Dubowy, and Marie J. Stuart</i>	345
Effect of Chronic Uremia on Fructose 2,6-Bisphosphate Glycolytic and Gluconeogenic Enzymes in Rat Liver	<i>Jose F. Caro, Madhur K. Sinha, and G. Lynis Dohm</i>	352
Triazolobenzodiazepines Competitively Inhibit the Binding of Platelet Activating Factor (PAF) to Human Platelets	<i>Carolyn M. Chesney, D. David Pifer, and Lauren M. Cagen</i>	359
Isolation and Sequence of a cDNA Clone for the Rat Pulmonary Surfactant-Associated Protein (PSP-A)	<i>Kimihiro Sano, James Fisher, Robert J. Mason, Yoshio Kuroki, James Schilling, Bradley Benson, and Dennis Voelker</i>	367
[3- 13 C-]Methionine-Labeled <i>Escherichia coli</i> Alkaline Phosphatase	<i>Denise Hines and Jan F. Chlebowski</i>	375
A Novel Mechanism for Utilization of Extracellular AMP in <i>Vibrio parahaemolyticus</i>	<i>Yuki Sakai, Kiyomi Toda, Yuki Mitani, Masaaki Tsuda, and Tomofusa Tsuchiya</i>	382
On the Origin of Heterogeneity of Fluorescence Decay Kinetics of Reduced Nicotinamide Adenine Dinucleotide	<i>G. Krishnamoorthy, N. Periasamy, and B. Venkataraman</i>	387
Specific Binding of Phorbol Esters to Nuclei of Human Promyelocytic Leukemia Cells	<i>A. S. Kraft, C. Appling, and R. L. Berkow</i>	393
Regulated Expression of Human Atrial Natriuretic Polypeptide Gene in Mouse L Cells	<i>Naoharu Iwai, Masato Matsunaga, Kazuya Ogawa, Etsuko Ohta, and Chuichi Kawai</i>	402
Effect of α -1-Antichymotrypsin on DNA Synthesis in Permeabilized Human Cells	<i>Michio Tsuda, Yuri Umezawa, Masashi Masuyama, Kurumi Yamaguchi, and Tsunehiko Katsunuma</i>	409
Effect of BCNU Pretreatment on Diquat-Induced Oxidant Stress and Hepatotoxicity	<i>Charles V. Smith</i>	415
Divergence of ANF Analogs in Smooth Muscle Cell cGMP Response and Aorta Vasorelaxation: Evidence for Receptor Subtypes	<i>Gerald P. Budzik, Susan L. Firestone, Eugene N. Bush, Peter J. Connolly, Todd W. Rockway, Virender K. Sarin, and William H. Holleman</i>	422
Dithiothreitol-Induced Oxidative Damage to Thymine and DNA in Solution	<i>H. Gregg Claycamp</i>	432
Histamine-Induced Phosphoinositide Metabolism in Cultured Human Umbilical Vein Endothelial Cells: Association with Thromboxane and Prostacyclin Release	<i>Thérèse J. Resink, George Yu. Grigorian, Aigul K. Moldabaeva, Sergey M. Danilov, and Fritz R. Bühler</i>	438
Methyl Iodide, a Potent Inducer of the Adaptive Response without Appreciable Mutagenicity in <i>Escherichia coli</i>	<i>Kazuhiko Takahashi and Yutaka Kawazoe</i>	447
Neomycin Inhibits Agonist-Stimulated Polyphosphoinositide Metabolism and Responses in Human Platelets	<i>Ole-Bjørn Tysnes, Adrie J. M. Verhoeven, and Holm Holmsen</i>	454
Bombesin Binding and Biological Effects on Pancreatic Acinar AR42J Cells	<i>Craig D. Logsdon, Jinchao Zhang, Janice Guthrie, Steve Vigna, and John A. Williams</i>	463
Development, Validation, and Application of an Enzyme Immunoassay (EIA) of Atriopeptin	<i>Laura L. McLaughlin, Yuefang Wei, Paul T. Stockmann, Kathleen M. Leahy, Philip Needleman, Jacques Grassi, and Phillippe Pradelles</i>	469
Rhodamine-123 Inhibits Import of Rat Liver Mitochondrial Transhydrogenase	<i>Ira M. Lubin, Licia N. Y. Wu, Roy E. Wuthier, and Ronald R. Fisher</i>	477
Platelet Factor XIII Is Activated by Calpain	<i>Yoshihiro Ando, Sadao Imamura, Yoko Yamagata, Aiko Kitahara, Hiroe Saji, Takashi Murachi, and Reiji Kannagi</i>	484

Acquisition of Thermotolerance during Development of <i>Blastocladiella emersonii</i> <i>Aline M. Silva, M. Helena Juliani, J. Janduí de Costa,</i> <i>and M. Christina M. Bonato</i>	491
Covalent Hybrids of Ovomucoid Third Domains Made from One Synthetic and One Natural Peptide Chain <i>Maciej Wieczorek, Soon Jae Park, and Michael Laskowski, Jr.</i>	499
Copper and the Estradiol Receptor <i>Jerry H. Fishman and Jack Fishman</i>	505
Epidermal Growth Factor Stimulates Tyrosine Phosphorylation of Human Glucocorticoid Receptor in Cultured Cells <i>Kanury V. S. Rao and C. Fred Fox</i>	512
Relative Affinity of Ca(II) and Mg(II) Ions for Human and Bovine Prothrombin and Fragment 1 <i>David W. Deerfield II, Dean L. Olson, Pola Berkowitz,</i> <i>Karl A. Koehler, Lee G. Pedersen, and Richard G. Hiskey</i>	520
Separation of Two Isozymes of Polyamine Oxidase from Murine L1210 Leukemia Cells <i>Paul R. Libby and Carl W. Porter</i>	528
Multiple Isoforms of ADP-Ribosylated G-like Proteins from Mammalian Thyroid Membranes <i>William J. Deery, Fernando Rebeiro-Neto, and James B. Field</i>	536

Volume 144, Number 2, April 29, 1987

AUTHOR INDEX, Volume 144, Number 2, April 29, 1987	iii
A Form of Human Basic Fibroblast Growth Factor with an Extended Amino Terminus <i>Andreas Sommer, Michael T. Brewer, Robert C. Thompson, David Moscatelli,</i> <i>Marco Presta, and Daniel B. Rifkin</i>	543
Redistribution of Protein Kinase C in Pancreatic Acinar Cells Stimulated with Cerulein or Carbachol <i>Tatsuo Ishizuka, Yasufumi Ito, Kazuo Kajita, Kiyoshi Miura,</i> <i>Seiji Nagao, Koh-ichi Nagata, and Yoshinori Nozawa</i>	551
An <i>in Vitro</i> System Derived from Friend Erythroleukemia Cells to Study Messenger RNA Stability <i>I. Sunitha and Lawrence I. Slobin</i>	560
Solubilization and Reconstitution of Acylcoenzyme A: Estradiol-17 β Acyltransferase <i>F. T. Lee and J. B. Adams</i>	569
Hepatic DNA and RNA Adduct Formation from the Carcinogen 7-Hydroxymethyl-12- methylbenz[a]anthracene and Its Electrophilic Sulfuric Acid Ester Metabolite in Preweanling Rats and Mice <i>Young-Joon Surh, Chen-Ching Lai,</i> <i>James A. Miller, and Elizabeth C. Miller</i>	576
Stimulation of Procollagenase Synthesis Parallels Increases in Cellular Procollagenase mRNA in Human Articular Chondrocytes Exposed to Recombinant Interleukin 1 β or Phorbol Ester <i>Mary L. Stephenson, Mary B. Goldring, James R. Birkhead,</i> <i>Stephen M. Krane, Hans J. Rahmsdorf, and Peter Angel</i>	583
Decreased Incorporation of the Photoaffinity Probe 8N ₃ -[γ - ³² P]GTP into a 45-kDa Protein in Lung Tumors <i>Kurt A. Droms, Boyd E. Haley, and Alvin M. Malkinson</i>	591
Further Studies on the Specificity of Diacylglycerol for Protein Kinase C Activation <i>Masayoshi Go, Kazuo Sekiguchi, Hideaki Nomura, Ushio Kikkawa,</i> <i>and Yasutomi Nishizuka</i>	598
Saturated and <i>trans</i> -Unsaturated Fatty Acids Elicit High Levels of Superoxide Generation in Intact and Cell-Free Preparations of Neutrophils <i>Torahiko Tanaka,</i> <i>Shiro Kanegasaki, Ryu Makino, Tetsutaro Iizuka,</i> <i>and Yuzuru Ishimura</i>	606
A Novel Yeast Secretion Vector Utilizing Secretion Signal of Killer Toxin Encoded on the Yeast Linear DNA Plasmid PGKL1 <i>Masao Tokunaga, Naomi Wada,</i> <i>and Fumio Hishinuma</i>	613
Down-Regulation of Protein Kinase C in Rat Glioma C6 Cells: Effects on the β -Adrenergic Receptor-Coupled Adenylate Cyclase <i>Peter H. Fishman, Molly Sullivan,</i> <i>and Jitendra Patel</i>	620
Phosphorylation of Branched-Chain 2-Oxo Acid Dehydrogenase Complex in Isolated Hepatocytes <i>Sheelagh M. A. Jones, Alistair T. R. Sim, D. Grahame Hardie,</i> <i>and Stephen J. Yeaman</i>	628
The Carcinoembryonic Antigen (CEA) Contains Multiple Immunoglobulin-like Domains <i>Shinzo Oikawa, Seiichi Imajo, Teruhisa Noguchi,</i> <i>Goro Kosaki, and Hiroshi Nakazato</i>	634
The Anesthetic Nitrous Oxide Affects Dioxxygen Utilization by Bovine Heart and Bean Seed Mitochondrial Particles <i>Sharon Sowa, Aichun Dong, Eric E. Roos,</i> <i>and Winslow S. Caughey</i>	643

A Direct Evidence for the Involvement of Poly(A) in Protein Synthesis	Harvey N. Rubin and Mostafa N. Halim	649
Evolution of Human von Willebrand Factor: cDNA Sequence Polymorphisms, Repeated Domains, and Relationship to von Willebrand Antigen II	Beverley B. Shelton-Inloes, George J. Broze, Jr., Joseph P. Miletič, and J. Evan Sadler	657
Synthesis of Alkyl-Ether Glycerophospholipids in Rat Glomerular Mesangial Cells: Evidence for Alkylidihydroxyacetone Phosphate Synthase Activity	Anthony Zanglis and Elias A. Lianos	666
The Effects of Insulin-like Growth Factor-I and Insulin on Placental Lactogen Production by Human Term Placental Explants	B. Bhaumick, E. P. Dawson, and R. M. Bala	674
Phospholipase A ² Activation in Chemotactic Peptide-Stimulated HL60 Granulocytes: Synergism between Diacylglycerol and Ca ²⁺ in a Protein Kinase C-Independent Mechanism	M. Motasim Billah and Marvin I. Siegel	683
Mechanism of Oxidation of 1-Methyl-4-phenyl-2,3-dihydropyridinium (MPDP ⁺)	W. Korytowski, C. C. Felix, and B. Kalyanaraman	692
A M _r 190,000 Glycoprotein Phosphorylated on Tyrosine Residues in Epidermal Growth Factor-Stimulated KB Cells Is the Product of the C-erbB-2 Gene	Takashi Kadowaki, Masato Kasuga, Kazuyuki Tobe, Fumimaro Takaku, Eisuke Nishida, Hikoichi Sakai, Shigeo Koyasu, Ichiro Yahara, Kumao Toyoshima, Tadashi Yamamoto, and Tetsu Akiyama	699
Human Fibroblast-Derived Growth Factor Is a Mitogen and Chemoattractant for Endothelial Cells	Daniel T. Connolly, Barry L. Stoddard, Nikos K. Harakas, and Joseph Feder	705
Calcitriol Increases Ca ²⁺ -ATPase Activity	Cobi Lidor and Samuel Edelstein	713
Biochemical and Proton NMR Characterization of the Isolated Functional β -Subunit of Coupling Factor 1 from Spinach Chloroplasts	Madeleine Roux-Fromy, Jean-Michel Neumann, François Andre, Gérard Berger, Guy Girault, Jean-Michel Galmiche, and René Remy	718
Measurement and Distribution of Vasopressin-Converting Aminopeptidase Activity in Rat Brain	J. Peter H. Burbach, Dirk Terwel, and Jos L. M. Lebouille	726
Specific Inhibition of Phorbol Ester and DiC ₈ -Induced Histamine Release from Human Basophils by the Protein Kinase C Inhibitors, H-7 and H-9	D. O. Thueson, J. A. Kennedy, C. D. Wright, and M. C. Conroy	732
Possible Involvement of Inositol Phosphates and Calmodulin in Calcitonin-Induced Stimulation of Phosphate Transport in LLC-PK ₁ Cells	Yoshikazu Kinoshita, Masaaki Fukase, Toshiyuki Yamatani, Tsutomu Chiba, Masamichi Nakai, Masaharu Tsutsumi, and Takuo Fujita	741
Autodegradation of Lysosomal Cysteine Proteinases	Eiki Kominami, Toshifumi Tsukahara, Yoshiaki Bando, and Nobuhiko Katunuma	749
Induction of Ornithine Decarboxylase Activity in Mouse Tissues by Phorbol Ester Is Effectively Blocked by Methylglyoxal bis(Butylamidino)hydrazonone	Hiroshige Hibasami, Tetsuya Tsukada, Satoru Maekawa, Masaki Sakurai, and Kunio Nakashima	757
Defective Adaptation to a Low Phosphate Environment by Cultural Renal Tubular Cells from X-Linked Hypophosphatemic (Hyp) Mice	Yoshikazu Kinoshita, Masaaki Fukase, Masaki Nakada, and Takuo Fujita	763
Desensitization of Renal Vasopressin-Stimulated Adenylate Cyclase by a Vasopressor and Antidiuretic Antagonist [1-(β -Mercapto- β , β -cyclopentamethylenepropionic acid), 2-(O-ethyl)-D-tyrosine, 4-valine] arginine Vasopressin	Potang Chang and Koji Kimura	770
Electron Spin Resonance (ESR) Studies of Skeletal Protein Interactions in Human Erythrocyte Membranes Exposed to Polyanions and in Membranes Prepared from Inositol Hexaphosphate (IHP)-Incorporated Low-Affinity Erythrocytes	Joseph W. Wyse, Robin Barker, Robert S. Franco, Orlando Martelo, and D. Allan Butterfield	779
The Interaction between Nuclear Topoisomerase II Activity from Human Leukemia Cells, Exogenous DNA, and 4'-(9-Acridinylamino)methanesulfon-m-anisidide (m-AMSA) or 4-(4,6-O-Ethylidene- β -D-glucopyranoside) (VP-16) Indicates the Sensitivity of the Cells to the Drugs	Elihu H. Estey, Lynn Silberman, Miloslav Beran, Borje S. Andersson, and Leonard A. Zwelling	787

Lack of Correlation between Calcium Mobilization and Respiratory Burst Activation Induced by Chemotactic Factors in Rabbit Polymorphonuclear Leukocytes	
<i>Kaija T. Harttala, Ian G. Scott, Matti K. Viljanen, and Karl E. O. Åkerman</i>	794
Integrity of the C-Terminal Part of Tyrosine Aminotransferase Revealed by an Anti-peptide Serum	
<i>J. B. Dietrich, G. Genot, and G. Beck</i>	801
A Membrane-Bound Calcium-Dependent Protease in Yeast α -Cell Cleaving on the Carboxyl Side of Paired Basic Residues	
<i>Kensaku Mizuno, Tomoko Nakamura, Katsumi Takada, Shumpei Sakakibara, and Hisayuki Matsuo</i>	807
Effects of Dietary Selenium on Lipid Peroxidation, Mitochondrial Function, and Protein Profiles in the Heart of the Myopathic Syrian Golden Hamster (BIO 14.6)	
<i>I. Siraj Jamall, Dipak Halder, and Axel G. Wadewitz</i>	815
Thrombin-Induced Transfer of Arachidonic Acid in Human Platelets Is Not Inhibited by Trifluoperazine	
<i>Vhundi G. Mahadevappa</i>	821
A New Enzymatic Pathway of Citrullinogenesis in Murine Hemopoietic Cells	
<i>Elke Schneider, Pierre P. Kamoun, Danièle Migliore-Samour, and Michel Dy</i>	829
Circular Dichroism Study of Bacteriorhodopsin-Lipid Interaction	
<i>T. Nishiya, I. Tabushi, and A. Maeda</i>	836
Combined Study of ^1H -Magnetic Resonance Imaging and Depth-Selected, EKG-Gated ^{31}P -Magnetic Resonance Spectroscopy of the Heart <i>in Vivo</i>	
<i>Teruhiko Toyo-Oka, Kuniaki Nagayama, Masahiro Umeda, Shutaro Ogawa, Keiji Eguchi, Saichi Hosoda, and Tsuneaki Sugimoto</i>	841
Direct Evidence for Chloride-Dependent Volume Reduction in Macrocytic Sheep Reticulocytes	
<i>Peter K. Lauf and Hans Bauer</i>	849
Mono(ADP-ribosyl)ation of Ca^{2+} -Dependent ATPase in Rabbit Skeletal Muscle Sarcoplasmic Reticulum and the Effect of Poly L-Lysine	
<i>N. Hara, K. Mishima, M. Tsuchiya, Y. Tanigawa, and M. Shimoyama</i>	856
The Tumor Promoter Tetradecanoylphorbol Acetate (TPA) Elicits the Redistribution of Zinc in Subcellular Fractions of Rabbit Thymocytes Measured by X-Ray Fluorescence	
<i>Péter Csermely, Sándor Gueth, and János Somogyi</i>	863
Species Differences between Rat and Rabbit Renal Na^+/H^+ Exchangers	
<i>Thomas Friedrich, Jutta Sablotni, and Gerhard Burckhardt</i>	869
Von Willebrand Factor Shares a Distinctive Cysteine-Rich Domain with Thrombospondin and Procollagen	
<i>Lois T. Hunt and Winona C. Barker</i>	876
<i>In Vitro</i> Production and Characterization of Low Molecular Weight Forms of Calcitonin Gene-Related Peptide Immunoreactivity from Rat Thyroid	
<i>Peter K. Mulderry, Mohammad A. Ghatel, and Stephen R. Bloom</i>	883
Purification of a Bovine Liver S6 Kinase	
<i>Diane Tabarini, Antonio Garcia de Herreros, Julia Heinrich, and Ora M. Rosen</i>	891
Stimulation of Leucine Transport by a Phorbol Ester through Activation of Protein Kinase C and Na^+/H^+ Exchanger	
<i>Yasuhide Mitsumoto and Tetsuro Mohri</i>	900
Pertussis Toxin Facilitates Secretagogue-Induced Catecholamine Release from Cultured Bovine Adrenal Chromaffin Cells	
<i>Teruo Tanaka, Hiromitsu Yokohama, Manabu Negishi, Hideya Hayashi, Seiji Ito, and Osamu Hayaishi</i>	907
Angiotensin Converting Enzyme Predominates in the Inner Cortex and Medulla of the Rat Kidney	
<i>Fumihiko Ikemoto, Gyeong Bu Song, Munechika Tominaga, Yoshiharu Kanayama, and Kenjiro Yamamoto</i>	915
A Proton Magnetic Resonance Study of the Effects of Polyamine and Divalent Metal Ions on Diadenosine 5',5'''- P^1 , P^4 -Tetraphosphate Base Stacking	
<i>Richard B. Westkaemper</i>	922
Preparation and Characterization of Monoclonal Antibodies Specific for $\text{G}^{\text{O}}\text{C}^{\text{O}}\text{dGdCG}^{\text{O}}\text{C}^{\text{O}}$ Duplex with High-Anti Conformation	
<i>Kazunobu Miura, Miho Saito, Teiji Itoh, Eiko Ohtsuka, Seiichi Uesugi, Bok Luel Lee, and Morio Ikehara</i>	930
Caldesmon Regulates the Three-Dimensional Contraction (Myosin-Dependent Contraction of the Actin Binding Protein-Induced Actin Gel)	
<i>Masao Nomura and Kenji Sobue</i>	936
Auxin-Regulated Changes in Protein Phosphorylation in Pea Epicotyls	
<i>A. S. N. Reddy, S. Chengappa, and B. W. Poovaiah</i>	944
No Direct Involvement of Plasma Membrane Divalent Cation-Activated Adenosine Triphosphatase in Histamine Release from Rat Mast Cells	
<i>Tatsuhisa Yamashita and Kimiko Saito</i>	951

Chemically Induced Parkinson's Disease: Intermediates in the Oxidation of 1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine to the 1-Methyl-4-phenyl Pyridinium Ion	<i>J. N. Chacon, M. R. Chedekel, E. J. Land, and T. G. Truscott</i>	957
M ₂ Muscarinoceptor-Associated Ionophore at the Cat Adrenal Medulla	<i>Richardo Borges, Juan J. Ballesta, and Antonio G. García</i>	965
Biochemical Properties Associated with the Immortalizing Domain of the Large T Protein of Polyomavirus	<i>Ikram Guizani, Philippe Clertant, and François Cuzin</i>	973
Protein and Lipid Disturbances in Rat Liver Microsomal Membranes after Bile Duct Ligation	<i>Laura Bengochea, Graciela Ouviaña, Patricia Sozzani, and Abraham Lemberg</i>	980
The Digestion of Cell Surface-Associated Glycosaminoglycans by Crude and Purified <i>Flavobacterium heparinum</i> Enzymes: Disparate Effects on Cell Adhesion	<i>Michael Piepkorn, Peter Hovingh, Roberta Barstad, and Alfred Linker</i>	986
Lipoxin Synthesis by Arachidonate 5-Lipoxygenase Purified from Porcine Leukocytes	<i>Natsuo Ueda, Shozo Yamamoto, Brian J. Fitzsimmons, and Joshua Rokach</i>	996
Isolation of Hepatocyte Stimulating Factor from Human Monocytes	<i>Gerald M. Fuller, Robert J. Bunzel, Barry M. Woloski, and Sang-Uk Nham</i>	1003
Genetic Heterogeneity of Steroid Sulfatase Deficiency Revealed with cDNA for Human Steroid Sulfatase	<i>Jon T. Conary, Gerhard Lorkowski, Bernhard Schmidt, Regina Pohlmann, Gerhard Nagel, Helmut E. Meyer, Cristiane Krentler, Jan Cully, Andrej Hasilik, and Kurt von Figura</i>	1010
Enriched Autonomously Replicating Sequences in a Nuclear Matrix-DNA Complex Isolated from Synchronized HeLa Cells	<i>Maria del Pilar Aguinaga, Charlese E. Kiper, and Manuel S. Valenzuela</i>	1018
Translocation of Diacylglycerol Kinase in Response to Chemotactic Peptide and Phorbol Ester in Neutrophils	<i>Jun-ichi Ishitoya, Akio Yamakawa, and Tadaomi Takenawa</i>	1025
Prevention of Adriamycin-Induced Interphase Death by 3-Aminobenzamide and Nicotinamide in a Human Promyelocytic Leukemia Cell Line	<i>Akihiko Tanizawa, Masaru Kubota, Tetsuya Takimoto, Yuichi Akiyama, Shiro Seto, Yukio Kiriya, and Haruki Mikawa</i>	1031
Sulfinyl Radical Formation from the Reaction of Cysteine and Glutathione Thiyl Radicals with Molecular Oxygen	<i>Michael D. Sevilla, David Becker, Steven Swarts, and John Herrington</i>	1037
<i>Drosophila melanogaster</i> Contains a Set of Polypeptides Capable of Polymerizing into Intermediate-like Filaments	<i>Margarita Cervera, Alberto Domingo, Javier Vinós, and Roberto Marco</i>	1043
Effect of Actinomycin D on DNA Replication and c-myc Expression during Rat Liver Regeneration	<i>Saburo Horikawa, Keiko Sakata, Fumiaki Uchiumi, Masakazu Hatanaka, and Kinji Tsukada</i>	1049
On the Regulatory Importance of 1,25-Dihydroxyvitamin D ₃ and Dietary Calcium on Serum Levels of 25-Hydroxyvitamin D ₃ in Rats	<i>Tomas Berlin and Ingemar Björkhem</i>	1055
Urinary TGFs in Neoplasia: Immunoreactive TGF α in the Urine of Patients with Disseminated Breast Carcinoma	<i>Kurt Stromberg, W. Robert Hudgins, and David N. Orth</i>	1059
The Mouse Homolog of the Human Amyloid β Protein (AD-AP) Gene Is Located on the Distal End of Mouse Chromosome 16: Further Extension of the Homology between Human Chromosome 21 and Mouse Chromosome 16	<i>Michael Lovett, Dmitry Goldgaber, Patricia Ashley, David R. Cox, D. Carleton Gajdusek, and Charles J. Epstein</i>	1069
Binding Characteristics of Atrial Natriuretic Factor and the Production of Cyclic GMP in Kidneys of Dahl Salt-Sensitive and Salt-Resistant Rats	<i>Alexander Hinko, Marc Thibonnier, and John P. Rapp</i>	1076
Presence of Tetrahydroisoquinoline and 2-Methyl-tetrahydroquinoline in Parkinsonian and Normal Human Brains	<i>Toshimitsu Niwa, Naohito Takeda, Norio Kaneda, Yoshio Hashizume, and Toshiharu Nagatsu</i>	1084
Direct Radioimmunoassay for Rat T-Kininogen	<i>Bouhnik Jacob, Baussant Thierry, Savoie Françoise, François Alhenç-Gelas, Gauthier Francis, and Esnard Frédéric</i>	1090

AUTHOR INDEX, Volume 144, Number 3, May 14, 1987	ii
Biochemical and Genetic Evidence for Distinct Membrane-Bound and Cytosolic Sialic Acid O-Acetyl-esterases: Serine-Active-Site Enzymes <i>Herman H. Higa, Sandra Diaz, and Ajit Varki</i>	1099
Gold(III) Inhibits Activated Human Osteosarcoma Adenylate Cyclase by an Action at or near the Catalytic Component <i>F. van Valen and E. Keck</i>	1109
Human Creatine Kinase: Isolation and Sequence Analysis of cDNA Clones for the B Subunit, Development of Subunit Specific Probes, and Determination of Gene Copy Number <i>Gerardo Villarreal-Levy, Tony S. Ma, Sandra A. Kerner, Robert Roberts, and M. Benjamin Perryman</i>	1116
Further Purification of Human Pituitary-Derived Chondrocyte Growth Factor: Heparin-Binding and Cross-Reactivity with Antiserum to Basic FGF <i>Catherine K. L. Too, Paul R. Murphy, Anne-Marie Hamel, and Henry G. Friesen</i>	1128
Concomitant Regulation of Hippocampal Calcium Antagonist Receptors and Calcium Uptake by Substance P <i>Fiorenzo Battaini, Stefano Govoni, Riccardo Del Vesco, Stefano Di Giovine, and Marco Trabucchi</i>	1135
Recombinant Human Granulocyte Colony-Stimulating Factor Enhances Superoxide Release in Human Granulocytes Stimulated by the Chemotactic Peptide <i>Seiichi Kitagawa, Akira Yuo, Lawrence M. Souza, Masaki Saito, Yasusada Miura, and Fumimaro Takaku</i>	1143
The Actions of Interferon and Antiinflammatory Agents on Induction of Indoleamine 2,3-Dioxygenase in Human Peripheral Blood Monocytes <i>Yoshisuke Ozaki, Mark P. Edelstein, and David S. Duch</i>	1147
Sequence Homology in the Metalloproteins: Purple Acid Phosphatase from Beef Spleen and Uteroferrin from Porcine Uterus <i>Donald F. Hunt, John R. Yates III, Jeffrey Shabanowitz, Nian-Zhou Zhu, Teresa Zirino, Bruce A. Averill, Silvia T. Daurat-Larroque, Jaiprakash G. Shewale, R. Michael Roberts, and Keith Brew</i>	1154
Effects of Sialogogues on the Syntheses of Polyamines and DNA in Murine Parotid Gland <i>Kenji Kikuchi, Mizuho Nishino, and Hideo Inoue</i>	1161
A Requirement for Cholesterol for Phorbol Ester-Induced Adhesion of a Human Monocyte-like Cell Line <i>M. Esfahani, S. Hathotuwegama, A. Kalenak, L. Scerbo, and H. M. Brown</i>	1167
Purification of the Catalytic Subunit of Protein Phosphatase-1 from <i>Drosophila melanogaster</i> <i>Viktor Dombrádi, Pál Gergely, György Bot, and Peter Friedrich</i>	1175
Different Mechanisms Control Developmental Activation of Transcription of Genes Subject to Identical Hormonal Regulation in Adult Liver <i>Robin Rothrock, Kai-Lin Lee, Kenneth R. Isham, Alfred C. Johnson, and Francis T. Kenney</i>	1182
GDP β S Enhances the Activation of Phospholipase C Caused by Thrombin in Human Platelets: Evidence for Involvement of an Inhibitory GTP-Binding Protein <i>Eckard Oberdisse and Eduardo G. Lapetina</i>	1188
Suppression of the EGF-Dependent Induction of c-myc Proto-Oncogene Expression by Transforming Growth Factor β in a Human Breast Carcinoma Cell Line <i>Jose A. Fernandez-Pol, Venugopal D. Talkad, Dennis J. Klos, and Paul D. Hamilton</i>	1197
Chain-Shortening of Prostaglandin F $_{2\alpha}$ by Rat Liver Peroxisomes <i>Ulf Diczfalusy, Stefan E. H. Alexson, and Jan I. Pedersen</i>	1206
Potent GnRH Agonists Containing L-Amino Acid Derivatives in the Six Position <i>János Seprődi, Judit Ércegyi, Zsolt Vadász, István Teplán, Imre Mező, Béla Kanyicska, Magdolna Kovács, and Sándor Vigh</i>	1214
Heterogeneity in High-Performance Liquid Chromatography of a Variant Surface Glycoprotein of <i>Trypanosoma brucei</i> <i>Daniel Tetaert, Véronique Gomes, Guillemette Huet-Duvillier, Dominique Demeyer, Marylène Hublart, Arnold Boersma, and Pierre Degand</i>	1222
The Bioflavonoid Quercetin Inhibits Neutrophil Degranulation, Superoxide Production, and the Phosphorylation of Specific Neutrophil Proteins <i>Warren D. Blackburn, Jr., Louis W. Heck, and Robert W. Wallace</i>	1229
Glucose Tolerance Factor Stimulates 3-O-Methylglucose Transport into Isolated Rat Adipocytes <i>Masakuni Tokuda, Atsunori Kashiwagi, Eiji Wakamiya, Tatsuya Oguni, Makoto Mino, and Hiroyuki Kagamiyama</i>	1237

Antigen- and Ionophore-Stimulated Synthesis of Platelet Activating Factor by the Cloned Mast Cell Line, MC9	Mark W. Musch, M. Motasim Billah, and Marvin I. Siegel	1243
Immunochemical Similarity between a Gastric Mucosa Non-pepsin Acid Proteinase and Neutrophil Cathepsin E of the Rat	Satoshi Yonezawa, Tetsuya Tanaka, Norio Muto, and Satoru Tani	1251
Human Liver cDNA Clones Encoding Proteolipid Subunit 9 of the Mitochondrial ATPase Complex	Leigh B. Farrell and Phillip Nagley	1257
Concanavalin A Prevents Phorbol-Mediated Redistribution of Protein Kinase C and β -Adrenergic Receptors in Rat Glioma C6 Cells	Jitendra Patel and Shouki Kassis	1265
Stimulation of Synaptosomal ATP-Dependent Ca^{2+} -Uptake by <i>N</i> -Ethylmaleimide	Chandrashekhar R. Gandhi and David H. Ross	1273
Immunochemical Characterization of Juvenile Hormone Esterase from Different Species of Lepidoptera	Mietek Wozniak and Davy Jones	1281
A Novel Fragmentation of Human Myelin Basic Protein: Identification of Phosphorylated Domains	K.-F. Jesse Chan, Mario A. Moscarello, Gerald L. Stoner, and Henry deF. Webster	1287
Autoantibodies against RNA Polymerase I in Scleroderma and Sjögren's Syndrome Scera	Dean A. Stetler, Morris Reichlin, Cheston M. Berlin, and Samson T. Jacob	1296
Phospholipid Metabolism of a Stimulated Murine T Cell Clone	Berthold Behl, Margarete Goppelt-Strübe, Beate Schwinzer, Karsten Wiebe, and Klaus Resch	1303
Effects of the Protein Kinase C Inhibitor H-7 and Calmodulin Antagonist W-7 on Superoxide Production in Growing and Resting Human Histiocytic Leukemia Cells (U937)	Motoko Shibamura, Toshio Kuroki, and Kiyoshi Nose	1313
GTP Requirement for Inositol-1,4,5-trisphosphate-Induced Ca^{2+} Release from Sarcoplasmic Reticulum in Smooth Muscle	Kooichi Saida and Cornelis van Breeën	1317
Phosphorylation of Protamines by Protein Kinase C: Involvement of Sites Which Are Phosphorylated <i>in Vivo</i> and Are Not Affected by cAMP-Dependent Protein Kinase	Stefano Ferrari and Lorenzo A. Pinna	1324
The Human ApoB-100 Gene: ApoB-100 Is Encoded by a Single Copy Gene in the Human Genome	K. Higuchi, J. C. Monge, N. Lee, S. W. Law, H. B. Brewer, Jr., A. Y. Sakaguchi, and S. L. Naylor	1332
The Phosphorylation Sites of the B ₂ Chain of Bovine α -Crystallin	Raúl Chiesa, Mary Ann Gawinowicz-Kolks, Norman J. Kleiman, and Abraham Spector	1340

ERRATA

Volume 141, Number 1, November 26, 1986: Rafael Apitz-Castro, Eliades Ledezma, Javier Escalante, and Mahendra Kumar Jain, "The Molecular Basis of the Antiplatelet Action of Ajoene: Direct Interaction with the Fibrinogen Receptor," pp. 145-150	1348
Volume 142, Number 3, February 13, 1987: Marina Marini, Giovanna Zunica, Gian Paolo Bagnara, and Claudio Franceschi, "Effect of Vanadate on PHA-Induced Proliferation of Human Lymphocytes from Young and Old Subjects," pp. 836-842	1348
Volume 142, Number 3, February 13, 1987: Yuzuru Eto, Tomoko Tsuji, Misako Takezawa, Satoshi Takano, Yasunori Yokogawa, and Hiroshi Shibai, "Purification and Characterization of Erythroid Differentiation Factor (EDF) Isolated from Human Leukemia Cell Line THP-1," pp. 1095-1103	1349
Volume 143, Number 2, March 13, 1987: Christine Clamagirand, Maryse Camier, Christine Fahy, Chantal Clavreul, Christophe Créminon, and Paul Cohen, "C-Terminally Extended Ocytocin and Pro-ocytocin: Neurophysin Peptide Converting Enzyme in Bovine Corpus Luteum," pp. 789-796	1350
Author Index for Volume 144	1351

The Subject Index for Volume 144 will appear as part of a cumulative index for the year 1987.

